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APPLICANT

Alan J. HEEGER et al.

FILING DATE

3/25/2004

GROUP ART UNIT

1634

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
		5,139,812	8/8/1992	Lobacz, Philippe	427	7	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
/RTC/	B1	CN1422960	6/11/03	China [English Abstract]	Abstract	only		X
/RTC/	B2	CN1422961	6/11/2003	China [English Abstract]	Abstract	only		X
	B3	WO/04/005020	4/29/2004	Japan			X	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

C1	Kuhr, et al. "Electrochemical DNA analysis comes of age" Nature Biotech 18:1042-1043 (2000)
C2	Winnier, Itamar "Biomaterials for Sensors, Fuel Cells, and Circuitry" Science 296:2407-2408 (2002)
C3	Fritz, et al. "Electronic detection of DNA by its intrinsic molecular charge" Proc. Natl. Acad. Sci., USA 99(22):14142-14146 (2002).
C4	Brazill, et al. "Capillary Gel Electrophoresis with Sinusoidal Voltammetric Detection: A Strategy To Allow Four-Color DNA Sequencing" Anal. Chem. 73:4882-4890 (2001)
C5	Palecek, et al. "Electrochemistry of Nucleic Acids and Development of DNA Sensors" Crit. Rev. Anal. Chem. 32(3):261-270 (2002)
C6	Millan et al. "Sequence-Selective Biosensor for DNA Based on Electroactive Hybridization Indicators" Anal. Chem. 65:2317-2323 (1993)
C7	Kelley, et al. "Single-base mismatch detection based on charge transduction through DNA" Nucleic Acids Res. 27(24):4890-4897 (1999)

EXAMINER

/Robert Crow/

DATE CONSIDERED

03/22/2007

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Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: 25 January 2007 <i>(use as many sheets as necessary)</i>		Application Number	10/810,333
		Filing Date	3/25/2004
		First Named Inventor	Alan J. HEEGER
		Art Unit	1634
		Examiner Name	Robert Thomas Crow
Sheet	1	of	3
		Attorney Docket Number	327823-1052

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/RTC/	A1	6,221,586 B1	04-24-2001	Barton et al.	

UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Application Document Serial Number-Kind Code ² (if known)	Filing Date of Cited Document MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

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/RTC/	C24	Bock et al. "Selection of single-stranded DNA molecules that bind and inhibit human thrombin" <i>Nature</i> 355:564-566 (1992)	
	C25	Bowtell, D.D.L. "Options available-from start to finish-for obtaining expression data by microarray" <i>Nat. Genet.</i> 21:25-32 (1999)	
	C26	Brazill et al. "Sinusoidal voltammetry: a frequency based electrochemical detection technique" <i>J. Electroanal. Chem.</i> 531:119-132 (2002)	
	C27	Buijsman et al. "Design and Synthesis of a Possible Mimic of a Thrombin-Binding DNA Aptamer" <i>Bioorg. & Med. Chem. Lett.</i> 7(15):2027-2032 (1997)	
	C28	Cheng et al. "Chlp PCR. II. Investigation of different PCR amplification systems in microfabricated silicon-glass chips" <i>Nuc. Acid. Res.</i> 24(2):380-385 (1996)	
/RTC/	C29	Cheng et al. "Preparation and hybridization analysis of DNA/RNA from <i>E. coli</i> on microfabricated bioelectronic chips" <i>Nat. Biotech.</i> 16:541-546 (1998)	

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		Art Unit	1634
Sheet 2 of 3		Examiner Name	Robert Thomas Crow
		Attorney Docket Number	327823-1052

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Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
/RTC/	C30	Cox et al. "Automated Acquisition of Aptamer Sequences" <i>Comb. Chem. & High Throughput Screening</i> 5:289-299 (2002)	
	C31	Dittmer et al. "A DNA-Based Machine That Can Cyclically Bind and Release Thrombin" <i>Agnew. Chem. Int. Ed.</i> 43:3550-3553 (2004)	
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	C33	Fan et al. "Electrochemical interrogation of conformational changes as a reagentless method for the sequence-specific detection of DNA" <i>Proc. Natl. Acad. Sci. USA</i> 100(16):9134-9137 (2003)	
	C34	Fang et al. "Molecular Beacons" <i>Cell. Biochem. Biophys.</i> 37:71-81 (2002)	
	C35	Fang et al. "Synthetic DNA Aptamers to Detect Protein Molecular Variants in a High-Throughput Fluorescence Quenching Assay" <i>Chem Bio Chem</i> 4:829-834 (2003)	
	C36	Fukusho et al. "In vitro selection and evaluation of ma aptamers that recognize arginine-rich-motif model peptide on a quartz-crystal microbalance" <i>Chem. Commun.</i> 1:88-89 (2002)	
	C37	Hamaguchi et al. "Aptamer Beacons for the Direct Detection of Proteins" <i>Anal. Biochem.</i> 294:126-131 (2001)	
	C38	Herne et al. "Characterization of DNA Probes Immobilized on Gold Surfaces" <i>J. Am. Chem. Soc.</i> 119:8916-8920 (1997)	
	C39	Hianik et al. "Detection of aptamer-protein interactions using QCM and electrochemical indicator methods" <i>Bioorg. & Med. Chem. Lett.</i> 15:291-295 (2005)	
	C40	Hianik et al. "The study of the binding of globular proteins to DNA using mass detection and electrochemical indicator methods" <i>J. Electroanal Chem</i> 564:19-24 (2004)	
	C41	Ho et al. "Optical Sensors Based on Hybrid Aptamer/Conjugated Polymer Complexes" <i>J. Am. Chem. Soc.</i> 126:1384-1387 (2004)	
	C42	Iqbal et al. "A review of molecular recognition technologies for detection of biological threat agents" <i>Biosens. & Bioelectron</i> 15:549-578 (2000)	
	C43	Kankia et al. Folding of the Thrombin Aptamer into a G-Quadruplex with Sr ²⁺ : Stability, Heat, and Hydration" <i>J. Am. Chem. Soc.</i> 123:10799-10804 (2001)	
	C44	Lee et al. "A Fiber-Optic Microarray Biosensor Using Aptamers as Receptors" <i>Anal. Biochem.</i> 282:142-146 (2000)	
	C45	Leopold et al. "Influence of Gold Topography on Carboxylic Acid Terminated Self-Assembled Monolayers" <i>Langmuir</i> 18:978-980 (2002)	
	C46	Li et al. "Molecular Aptamer Beacons for Real-Time Protein Recognition" <i>Biochem. & Biophys. Res. Commun.</i> 292:31-40 (2002)	
✓	C47	Li et al. "Real-time Protein Monitoring Based on Molecular Beacons" <i>Curr. Proteomics</i> 1:315-324 (2004)	
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/RTC/	C50	Minunni et al. "Development of biosensors with aptamers as bio-recognition element: the case of HIV-1 Tat protein" <i>Biosens. & Bioelectron.</i> 20:1149-1156 (2004)	
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	C54	Rajendran et al. "In vitro selection of molecular beacons" <i>Nucleic Acids. Res.</i> 31(19):5700-5713 (2003)	
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	C58	Stojanovic et al. "Aptamer-Based Folding Fluorescent Sensor for Cocaine" <i>J. Am. Chem. Soc.</i> 123:4928-4931 (2001)	
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	C60	Tombelli et al. "New Trends in Nucleic Acids Based Biosensors" <i>Anal. Lett.</i> 37(6):1037-1052 (2004)	
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	C62	Willner, Itamar "Biomaterials for Sensors, Fuel Cells, and Circuitry" <i>Science</i> 298:2407-2408 (2002)	
	C63	Winzeler et al. "Fluorescence-Based Expression Monitoring Using Microarrays" <i>Methods. Enzymol.</i> 306:3-18 (1999)	
/RTC/	C64	Yamamoto et al. "Molecular beacon aptamer fluoresces in the presence of Tat protein of HIV-1" <i>Genes Cells</i> 5:389-396 (2000)	

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